

RANGE EXTENSION OF *PENAEOPSIS SERRATA*  
(CRUSTACEA: PENAEOIDEA) TO OFF NEW JERSEY  
AND RIO GRANDE DO SUL

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*Abstract.*—*Penaeopsis serrata*, a wide ranging amphi-Atlantic shrimp, has been reported to range in the western Atlantic from off Cape Lookout, N.C., to Surinam. Herein it is recorded from localities off New Jersey and Rio Grande do Sul, about 800 km northward and 6400 km southeast of its previously known limits.

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This amphi-Atlantic species was previously known to occur in the western Atlantic from off Cape Lookout, N.C., (Hay and Shore, 1918) through the Gulf of Mexico and the Caribbean Sea south to Surinam (Bullis and Thompson, 1965). In the eastern Atlantic, it ranges from south of Cabo San Vicente, Portugal, to Tamzak ("Tamxat"), 17°26'N, 16°02'W, Mauritania (Maurin, 1961, 1968). Like its congeners, all from the Indo-West Pacific, *P. serrata* Bate, 1881, occurs on upper continental and insular slopes at depths of 183 to 750 m. This is a common shrimp, known by fishermen as "megalops"—a name proposed by S. I. Smith (1885) and repeatedly used in the literature. In the eastern Atlantic, although quite abundant in certain areas, it is not exploited commercially, and, because of its relatively small size, its economic potentiality has not been investigated by U.S. Government research vessels (Harvey R. Bullis, personal communication).

Recently, in the course of explorations by the Woods Hole Oceanographic Institution (Haedrich, Rowe, and Polloni, 1975), one female of this species (carapace length 17.5 mm) was taken off Barnegat, N.J., during *Gosnold* cruise 197, stn 111, 40°00'N, 70°47'W, depth 275-290 m. This record extends the known range of the species about 800 km north of the previously most northern precisely recorded locality, off Cape Lookout, N.C., 34°45'N, 75°28'W, depth 320 m, *Combat* stn 175 (Bullis and Thompson, 1965).

Of greater interest has been the discovery of its presence off southern Brazil where 16 males (15 to 20 mm carapace length) and 22 females (18 to 23.5 mm carapace length) were collected by Dr. V. N. Semënov, during an exploratory cruise of the *R/V Akademik Knipovitch*, off Rio Grande do Sul, at 32°45'24"S, 50°24'W, depth 345-260 m (Figure 1). Heretofore, the southernmost locality reported for this shrimp was off Surinam, 7°38'N, 54°43'W, 457 m, *Oregon* stn 2008. Actually, "megalops" had been collected (one male, 14 females) farther southeast, north of Roche Brigan-din, French Guiana, at 7°11'N, 52°58'W, depth 457 m, *Oregon* stn 2028, but

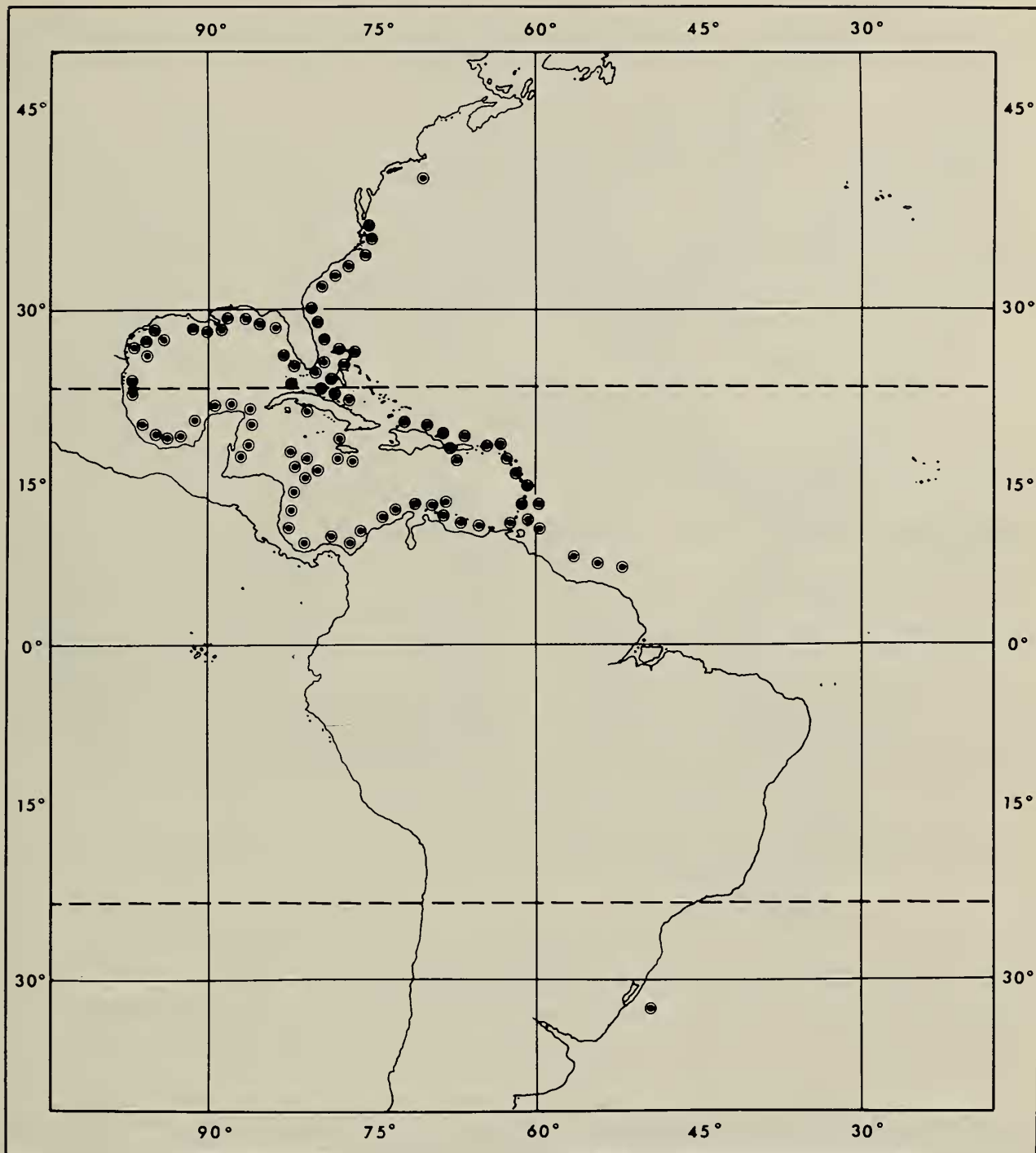


Fig. 1. Geographic distribution of *Penaeopsis serrata* in the western Atlantic.

this find has not been previously published. The presence of *P. serrata* off Rio Grande do Sul represents an extension of about 6,400 km southeast of its reported southern limit (Bullis and Thompson, 1965), and an addition to the decapod crustacea of Brazil.

A detailed examination of the specimens from southern Brazil revealed no significant differences between them and representatives of the species occurring north of the equator. The rostra of the Brazilian specimens are almost straight or slightly arched basally, and armed with 12 to 16 teeth in addition to the epigastric tooth, variations that fall within the range of those

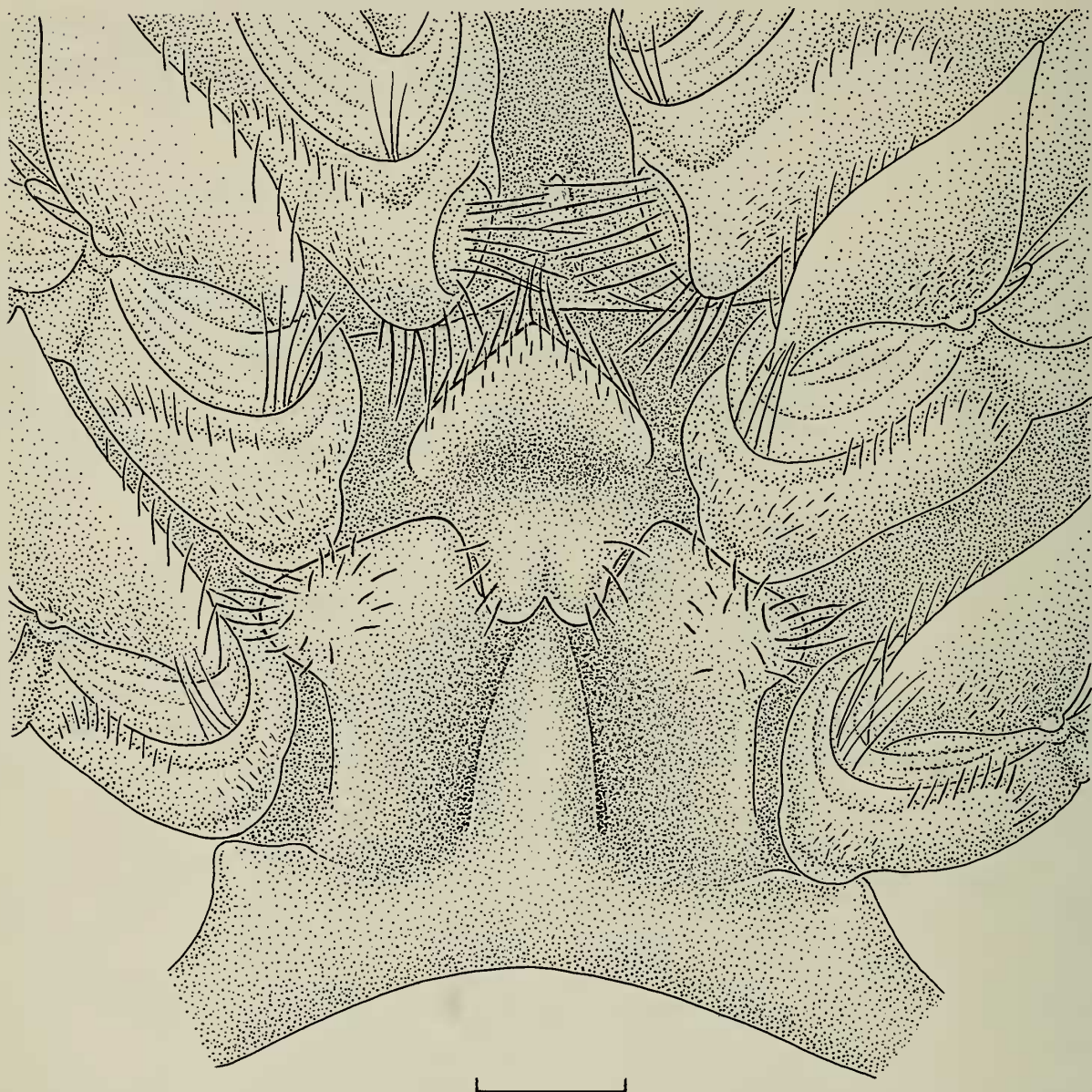


Fig. 2. *P. serrata*, ♀ 21 mm cl, off Rio Grande do Sul, Brazil. Thelycum, ventral view. Scale = 1 mm.

present in northern populations. The branchiocardiac carina and the long, interrupted cicatrix extending along the lateral surface of sixth abdominal somite are very weak in all specimens, and the petasmata are virtually identical in all males. In the Brazilian females, the thelyca are similar to those in most individuals of northern populations: the plate of sternite XIV (Fig. 2) is strongly produced anterolaterally and the median plate of XIII is subcordiform or subsemicircular. Our examination of extensive collections of *P. serrata* from the north Atlantic has demonstrated that in the populations from the Caribbean and the Atlantic coast of northern South America, the third maxilliped and the pereopods are proportionately longer than they are in the populations from the Gulf of Mexico and the Atlantic coast of the United States. In the Brazilian specimens, these appendages extend as far as those in specimens from the Caribbean and northern South America. The

uniformity in the Caribbean—northern South America and southern Brazil specimens is remarkable if the latter are members of a truly disjunct population.

The specimens from off New Jersey and Rio Grande do Sul are deposited at the Museum of Natural History, Smithsonian Institution, catalog numbers USNM 168338 and USNM 171466, respectively. Those from New Jersey were donated by R. L. Haedrich, G. T. Rowe, and P. T. Polloni (to whom we are grateful), of the Woods Hole Oceanographic Institution, and those from off Rio Grande do Sul, by the second author.

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